

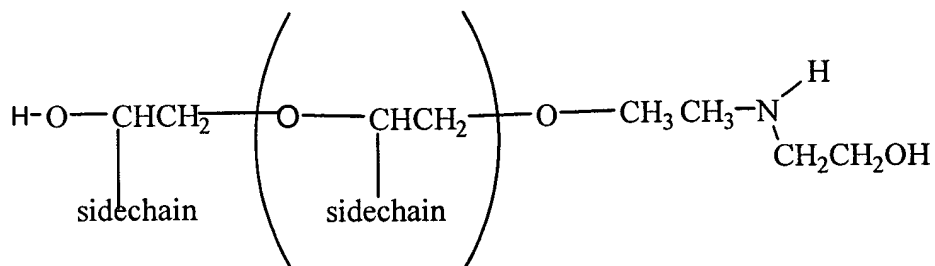
## REMARKS

Claims 13, 21, and 24-27 are pending in the application. Claims 13, 17, and 24 have been amended by incorporating the subject matter of cancelled claims 22, 23, and 28 into each of them, respectively. This amendment adds no new matter as such subject matter is supported in the Specification at least at compounds 2 and 5, and in Examples 2 and 5.

### I. Rejection Under 35 U.S.C. § 112, first paragraph -- Written Description

The Examiner has rejected claims 22 and 23 under 35 U.S.C. § 112, first paragraph, asserting that the claims contain subject matter that was not described in the Specification in such a way as to reasonably convey to one skilled in the art that the inventors at the time the application was filed had possession of the invention. In particular, the Examiner asserts that the Example 5 relied upon to support the subject matter of claims 22 and 23 discloses a formula wherein "a" is 25, and not 26 as is claimed. The applicants respectfully traverse this rejection.

In Example 5, the compound 35a has the formula:

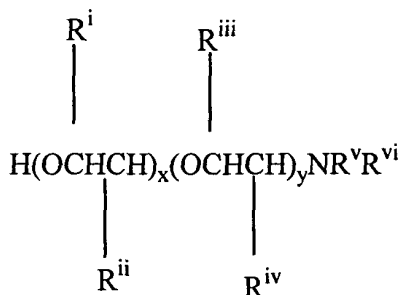


As could have easily been discerned by a person of skill in the art, the hydrogen atom shown on the far left hand side of the page is represented in the claim as group R<sup>1</sup>. Thus it can be seen that "a" in the above compound is equal to 26 (one from the "[O-CH((CH<sub>2</sub>)<sub>13</sub>CH<sub>3</sub>)CH<sub>2</sub>]" portion of the compound and twenty six from the "[OCH(CH<sub>2</sub>CH<sub>3</sub>)CH<sub>2</sub>]<sub>25</sub>" portion of the compound. Accordingly, the compound of Example 5 (Compound 35a) shows a compound wherein "a" is 26.

For at least these reasons, it is respectfully requested that the Examiner reconsider and withdraw the rejection of claims 22 and 23.

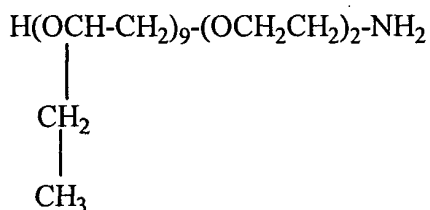
## II. Rejection Under 35 U.S.C. § 102 Based Upon Campbell.

The Examiner has rejected claims 13, 15-18, and 20-23 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,527,996 of Campbell. As basis for this assertion, the Examiner states that the Campbell formula:



anticipates the invention when Z is 1, R' is 8, R<sup>2</sup> to R<sup>5</sup> are a hydrogen atom, or C<sub>1</sub> to C<sub>16</sub> hydrocarbon groups, "a" is an integer from 1 to 20 and X is B1 or B4 wherein R<sup>15</sup> is a C<sub>2</sub> alkylene, R<sup>16</sup> and R<sup>17</sup> are hydrogen atoms. The applicants respectfully traverse the rejection.

Campbell does not anticipate the gasoline additive or the gasoline composition of the invention for it does not teach all elements as claimed. In particular, Campbell teaches additive compounds represented by the general formula given above that include a number of hydroxyl polyoxyalkylene amines or polyamines, as x and x are integers of 1 to 30. However, Campbell teaches with specificity only the compound given below (hereinafter the "Campbell Compound"):



This is not the same compound of the invention as claimed. The Campbell Compound contains two ethylene oxides connecting to an amino group as a hydrophilic group. It has a molecular weight of 75 ± 2 (Campbell at col. 4, l. 50), or in the range of 700 to 1200. In contrast the claimed additive or compound of the claimed composition has one ethylene oxide portion and a molecular weight of approximately 2,000. (See Specification at 5.) Campbell does not

specifically teach or provide examples of use of additives having less than two ethylene oxide portions and a relatively lower molecular weight.

For at least these reasons, it is requested that the Examiner reconsider and withdraw the rejection under § 102(b).

### **III. Rejections Under 35 U.S.C. § 103 Based Upon Campbell.**

The Examiner has rejected claims 24 and 28 under 35 U.S.C. § 103(a) as being unpatentable over the disclosure of Campbell. In particular, while the Examiner concedes that Campbell fails to teach the claimed method for controlling deposits formed in a combustion chamber of a direct injection gasoline, she asserts that it would have been obvious to one of ordinary skill in the art to have used the composition in a direct injection gasoline engine because Campbell teaches that the fuel composition of Campbell controls deposits in “internal combustion engines.” The Examiner asserts that “internal combustion engines” include direct injection gasoline engines. The applicants respectfully traverse the rejection.

In order for a prior art reference to render obvious the claimed invention, the Examiner must establish: 1) that the prior art reference teaches or suggests all elements of the invention; 2) that one of skill in the art would have been motivated to modify the prior art reference to achieve the invention; and 3) that one of ordinary skill in the art would have had a reasonable expectation that such modifications would result in success. In the present case, the Examiner has failed to demonstrate any of these elements; thus, the disclosure of Campbell cannot be relied upon to establish a *prima facie* case of obviousness.

First, Campbell does not teach or suggest each element of the invention as claimed. As the Examiner concedes, Campbell does not teach a method for controlling the deposits formed in a combustion chamber of a direct injection gasoline engine. Instead, Campbell merely makes the general disclosure that the Campbell compound is effective in the reduction of the intake valve deposits in a conventional internal combustion engine.

Additionally, the mere disclosure of use in an “internal combustion engine” would not have cause a person of skill to modify Campbell to arrive at the present invention. The additive of Campbell is disclosed as being effective in the reduction of intake valve deposits in a conventional internal combustion engine. In view of this disclosure and the state of the art at the

time of filing of the application, a person of skill would have understood that the Campbell additive most likely would *not* have acted similarly in the reduction of deposits formed in a *combustion chamber* of an engine, and therefore would not have made the modification proposed by the Examiner. It was commonly known in the art that the addition of conventional additives such as that of Campbell to fuel creates the contrary situation -- it leads to an increase in the deposits formed in the combustion chamber of conventional internal combustion engines. *See*, SAE Technical Paper Series No. 972, 837, October 13-16, 1997 (the "SAE Paper") at pages 20, 21 and 27 (discussing the influences of a fuel (gasoline) containing additives on combustion chamber deposits in conventional internal combustion engines) attached hereto.

The SAE Paper discloses that the addition of conventional additives such as that of Campbell to fuel increases combustion chamber deposits in internal combustion engines but reduces intake valve deposits in internal combustion engines. *Compare* SAE Paper at Figures 1, 18, 19 and 20 to SAE Paper at Figure 26. Thus, a person of skill in the art would have no reason to modify Campbell to arrive at the present invention, nor would he have had any reasonable expectation that the modification would result in success, for the state of the art at the time the application was filed would have caused one to believe that use of additives would give the opposite result.

Second, Campbell does not teach or suggest a method for controlling deposits formed in a combustion chamber of a direct injection gasoline engine that includes the step of using a gasoline composition which comprises gasoline and the nitrogen containing compound as recited in, *e.g.*, claim 24, for the reasons detailed above in Section II of this response. As the additives of Campbell are not taught or suggested for use in internal combustion engines, a person of skill in the art would not have been motivated to modify the chemical compound to arrive at the additive in the invention, nor would he have had any expectation that such modification would be successful.

Accordingly, the applicants submit that the Examiner has failed to establish a *prima facie* case of obviousness. It is requested that she reconsider and withdraw the § 103 rejection.

#### **IV. Any *Prima Facie* Case of Obviousness is Rebutted By the Unexpected Results Obtained Through Use of the Method of the Invention.**

Had the Examiner been able to establish *prima facie* obviousness based upon Campbell, which she has not, it would be rebutted by the unexpected results achieved by the method of the

Accordingly, for at least these reasons it is submitted that the compound of the invention exhibits surprising and unexpected results, which would rebut any *prima facie* obviousness based upon Campbell, should the Examiner have established such case.

### CONCLUSION

In view of the foregoing, it is respectfully submitted that claims 22 and 23 are fully compliant with 35 U.S.C. § 112, and that claims 1-27 are distinguishable over the cited prior art. The Examiner's reconsideration of the rejections and allowance of claims 1-27 at the earliest opportunity is earnestly solicited.

Respectfully submitted,

KATSUHIKO HAJI, *et al.*

21 August 2003  
(Date)

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245117

Enclosures

*Request for Continued Examination*

*SAE Technical Paper Series No. 972, 837, October 13-16, 1997*

*Declaration Under 37 C.F.R. § 1.132 of Katsuhiko Haji*



A DOCPHOENIX

FOLLOW-ON DOCUMENT INDEX SHEET

## INCOMING

\_\_\_\_ ACPA \_\_\_\_  
Continuing Prosecution Application

\_\_\_\_ AP.B \_\_\_\_  
Appeal Brief

\_\_\_\_ C680 \_\_\_\_  
Request for Corrected Notice/Allowance

\_\_\_\_ C.AD \_\_\_\_  
Change of Address

\_\_\_\_ CFILE \_\_\_\_  
Request for Corrected Filing Receipt

\_\_\_\_ COCIN \_\_\_\_  
Papers filed re Certificate of Corrections

\_\_\_\_ CRFD \_\_\_\_  
Computer Readable Form Defective

\_\_\_\_ CRFE \_\_\_\_  
Computer Readable Form 'ENTERED'

\_\_\_\_ EABN \_\_\_\_  
Request for Express Abandonment

\_\_\_\_ ELC. \_\_\_\_  
Response to Election/Restriction

\_\_\_\_ IFEE \_\_\_\_  
Issue Fee Transmittal PTOL 85 B

\_\_\_\_ IRFND \_\_\_\_  
Refund Request

\_\_\_\_ L RIN \_\_\_\_  
Any Incoming to L&R

\_\_\_\_ N417 \_\_\_\_  
Copy of EFS Receipt Acknowledgement

\_\_\_\_ N/AP \_\_\_\_  
Notice of Appeal

\_\_\_\_ PA.. \_\_\_\_  
Change in Power of Attorney

\_\_\_\_ PC/I \_\_\_\_  
Power to Make Copies or to Inspect

\_\_\_\_ PEF. \_\_\_\_  
Pre-Exam Formalities Response

\_\_\_\_ PEFRR EISS \_\_\_\_  
Pre-Exam Formalities Reissue Response

\_\_\_\_ PEFRSEQ \_\_\_\_  
Pre-Exam Formalities Sequence Reply

## INCOMING

\_\_\_\_ LET. \_\_\_\_  
Misc. Incoming Letter

\_\_\_\_ IMIS \_\_\_\_  
Miscellaneous Internal Document

\_\_\_\_ PGEA \_\_\_\_  
Req Express Aband to avoid Publication

\_\_\_\_ PGA9 \_\_\_\_  
Req for Corrected Pat App Publication

\_\_\_\_ PGREF \_\_\_\_  
Req for Refund of Publication Fee Paid

\_\_\_\_ PROTEST \_\_\_\_  
Protest Documents Filed by 3<sup>rd</sup> Party

\_\_\_\_ PROTRANS \_\_\_\_  
Translation of Provisional in Nonprovisional

\_\_\_\_ REM \_\_\_\_  
Applicant Remarks in Amendment

\_\_\_\_ RESC \_\_\_\_  
Rescind Non-Publication Request

\_\_\_\_ RETMAIL. \_\_\_\_  
Mailed Returned by Post Office

\_\_\_\_ XT/ I \_\_\_\_  
Extension of Time filed separate

## APPL PARTS

\_\_\_\_ 371P \_\_\_\_  
PCT Papers in a 371 Application

\_\_\_\_ A... \_\_\_\_  
Amendment Including Elections

\_\_\_\_ A.NE \_\_\_\_  
After Final Amendment

\_\_\_\_ A.PE \_\_\_\_  
Preliminary Amendment

\_\_\_\_ ABST \_\_\_\_  
Abstract

\_\_\_\_ ADS \_\_\_\_  
Application Data Sheet

\_\_\_\_ AF/D \_\_\_\_  
Affidavit or Exhibit Received

\_\_\_\_ APPENDIX \_\_\_\_  
Appendix

## APPL PARTS

\_\_\_\_ ARTIFACT \_\_\_\_  
Artifact

\_\_\_\_ CLM \_\_\_\_  
Claim

\_\_\_\_ COMPUTER \_\_\_\_  
Computer Program Listing

\_\_\_\_ CRFL \_\_\_\_  
CRF Transfer Request

\_\_\_\_ CRFS \_\_\_\_  
Computer Readable Form Statement

\_\_\_\_ DIST \_\_\_\_  
Terminal Disclaimer Filed

\_\_\_\_ DRW \_\_\_\_  
Drawings

\_\_\_\_ FOR \_\_\_\_  
Foreign Reference

\_\_\_\_ FRPR \_\_\_\_  
Foreign Priority Papers

\_\_\_\_ IDS \_\_\_\_  
IDS Including 1449

\_\_\_\_ NPL \_\_\_\_  
Non-Patent Literature

\_\_\_\_ OATH \_\_\_\_  
Oath or Declaration

\_\_\_\_ PET. \_\_\_\_  
Petition

\_\_\_\_ PGPUB DRAWINGS \_\_\_\_  
Box PG Pub Drawings

\_\_\_\_ SEQLIST \_\_\_\_  
Sequence Listing

\_\_\_\_ SPEC \_\_\_\_  
Specification

\_\_\_\_ SPEC NO \_\_\_\_  
Specification Not in English